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ABSTRACT

As part of a larger study of policy implementation, this paper discusses the changes in five Maryland high schools regarding the reform of graduation requirements. The study hypothesized that tracking systems have a powerful influence on educational experiences and that reform intended to change those experiences would be mediated by track. In 1985, the Maryland State Board of Education mandated new graduation requirements, which included: 1) the addition of a third credit in mathematics and 2) the addition of an advanced high school diploma called the Certificate of Merit. The study sought to describe the student stratification systems in place prior to the implementation of the new policy and then to document any changes in those systems. Data were obtained from an analysis of student transcript records (which compared those of the class of 1986 with those of the class of 1989) and from interviews with a total of 343 teachers and 403 students. Findings indicate that, overall, students took more mathematics credits. Students in higher tracks persistently took more courses that would further their education and careers. However, the failure rates for lower track students increased. Also, there was some evidence that teachers did not uphold standards of high expectations for all. The unevenness in teacher knowledge about the Certificate of Merit helped to perpetuate inequities in access to educational opportunities. Three tables are included. Appendices contain frequency distributions of student transcripts by track and of student and teacher interviews by school and year. (LMI)

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STATE POLICY REFORM AND TRACKING

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STATE POLICY REFORM AND TRACKING

As part of a larger study of policy implementation, this paper discusses the changes in five high schools in association with graduation requirements reform. Since graduation requirements reform of the 1980s was intended to alter the course-taking opportunities and behaviors of students, we were particularly interested in changes in students' educational experiences as differentiated by track. Based on previous literature, we hypothesized that tracks have a powerful influence on educational experiences and that reform intended to change those experiences would be mediated by track.

We tested this hypothesis using three different data sources: student transcript records (a quantitative assessment), student interviews regarding constraints on their course selections (a qualitative analysis), and teachers' perceptions of the tracking process and changes brought on by the new graduation reform (also a qualitative analysis). Comparisons of student course-taking patterns were made both before and after the reform took effect to assess differences by track. We also probed students' beliefs about factors that impeded their movement across tracks and found little change in their assessment as a result of the policy reform. Finally, we balanced the students' views with teachers' comments about where responsibility for tracking lies, how the reform affected tracking within their schools, and how unequal access to information perpetuates tracking inequities.

Background

The decade of the 1980s was a period of intense state involvement in education. Growing concern over the quality of American education found expression in the National Commission on Excellence in Education's A Nation at Risk (1983: 5) which described schools as infected with a "rising tide of mediocrity". Spurred by such evocative rhetoric, state policymakers initiated a series of reforms which both reflected and encouraged an agonizing reappraisal of the state of American education. Prodded sharply by an increasing awareness that the American economy was no longer pre-eminent in world markets, the early reform initiatives targeted student outcomes, the curriculum and testing, and standards for teacher training and certification. Taken together, these were efforts to "forcefully repair the sinking vessel" (Hawley, 1988: 418) of American education.

A flurry of legislative activity, which has been estimated at over 700 pieces of legislation between 1983 and 1985 (Darling-Hammond & Berry, 1988), was focused on "student standards;" that is, curriculum reform that would establish higher standards for students. A common way to strengthen the curriculum at the state level has been to regulate course offerings and course taking patterns (Clune, 1989). A review of Clearinghouse Notes

produced by the Educational Commission of the States (1990) documents the pervasiveness of this general policy initiative at the state level during this past decade.

When the decade began, 37 states had responsibility for defining minimum graduation requirements. The remaining 13 delegated most or all of that responsibility to local school boards. By the decade's end that number had increased to 43. Thirty-nine of the states made some changes in the total number of Carnegie units required for graduation. The average number of credits required for graduation increased significantly in the early part of the decade. In 1980 the average number of credits required by the states that mandated credits was 17.40. By 1985 the average had increased to 19.47.

Using as a baseline the thirty-five states which had state control of requirements during the entire decade, the evidence is fairly convincing that significant changes were being attempted in the number and kinds of courses students were required to take. In nearly all of the cases (32 of the 35 states), increased courses requirements were implemented in either math or science. In 25 of these 35 states, increases were required in both math and science.

Some critics have argued that the first wave's emphasis on excellence and achievement turned away from the equity and social justice concerns found in policies of the 1960s and 1970s (Hawley, 1988; Apple, 1988). While some commentators gloss over larger social justice questions about the first wave of reform (see, for example, Murphy, 1989; Finn, 1988), growing evidence from our urban and rural centers suggests that educational standards grounded in meritocratic principles may create patterns of injustice which systematically exclude certain students from educational opportunities.

Of particular interest is whether opportunities will be afforded all students to share equally in an academically enriching curriculum. As noted in a recent Rand report, science and mathematics experiences of students in lower tracks are "strikingly different" than for students in higher tracks (Oakes, 1990: vi). The concern is that the invidious patterns documented by the literature will continue or even be exacerbated by such first-wave state reform initiatives as increased graduation requirements. This paper tests some of those arguments by taking an in-depth look at tracking in five Maryland high schools and documenting changes over time as the new requirements took effect.

This research is part of a larger, four-year study (Wilson, Rossman & Adduci, 1991) of the local effects of increased graduation requirements imposed by the Maryland State Board of Education on local school districts in 1985. These requirements were phased in so that the class of 1989 was the first class to comply with all the new stipulations. While the requirements did not alter the total number of credits for graduation (20), several key components of the law altered course-taking patterns of

students. Two key elements of the reform that are discussed in detail in the findings of this paper include the addition of a third credit in mathematics and the addition of a special notation on diplomas of students who took a more rigorous academic curriculum.[1] This latter reform was designated the Certificate of Merit and is awarded to students who take three years of science (instead of the regular two), take one year of foreign language beyond the first year, earn a minimum grade point average of 2.6, and have 12 of their 20 credits classified as "advanced". The definition of advanced is locally generated and is supposed to be available to students in all subject disciplines (i.e. in vocational and fine arts areas as well as the more traditional academic subjects).

Literature Review

Schools have traditionally served a sorting function. As people-processing organizations, they receive students who undergo some experiences over a period of years, then leave the organization having received certain educational benefits that prepare them for a particular sort of future. In sorting its clients into groups, labeling those groups, conferring on them certain statuses, and certifying those statuses to the larger society, schools are powerful mechanisms for influencing students' life chances. One powerful system of sorting and classifying students is curriculum grouping or tracking. Clearly the various tracks in a high school have a profound influence on the types, variety, and quality of educational experiences of students, easing access to intellectual challenge and appropriate coursework for college for some while limiting information and reducing mobility for others.

Tracking systems most often sort students into the academic or college bound track, the general track, and the vocational track. As we discuss below, the stability and persistence of track assignments as well as their exhaustiveness as constructs describing a student's educational experiences have raised thorny empirical problems as well as equity issues, and have recently come under challenge (Oakes, 1985; Garet & DeLany, 1988).

Rosenbaum (1978) identified selection systems within schools as critical for understanding the educational and occupational attainment process. Noting that there had been much progress in understanding that schools sort students into statuses linked to future occupational choices, he lamented that "very little about the structure of opportunity within schools and its influence on youths' opportunities in society" (Rosenbaum, 1978: 236) was known. The sorting function of schools had been well established; how that sorting function works was the focus of his inquiry.

In a case study of one high school, he found that one set of norms were articulated by administrators and teachers, suggesting an open system where all students had equal access to educational opportunities. In examining

school records, however, he found the opposite: a set of stable, persistent tracking patterns which suggested "structural properties ... [where] all boundaries are not equally permeable, some are permeable in only one direction" (Rosenbaum, 1978: 242). The tracking system was structured so that students in the highest track stayed in that track; noncollege track students stayed in those tracks; and while lower-track college bound students moved into noncollege tracks, the reverse rarely happened. Thus, if we think of tracking systems as a series of valves, most valves only opened in one direction -- down. Rosenbaum concluded that the differences between the "apparent" opportunity structure and the "actual" one were real and persistent: While the former appeared to be open and grounded in norms of fairness, the latter belied those assumptions and revealed patterns of constrained and misinformed choices for lower-track students.

Rosenbaum's (1978, 1980) work presented an important concept -- the structure of opportunity -- for studying how access to educational resources within schools was structured into an elaborated, stable tracking system. Much research has been done on tracks and tracking systems since then. A brief review, highlighting the findings from both survey and ethnographic studies, is presented below.[2]

Research on Tracking: The Surveys

The impetus for much of the survey research was to explain within-school variations in achievement found by previous research, notably the Coleman Report of the mid-1960s (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966). Several studies reported that participation in the academic or college bound track is associated with higher achievement levels (Alexander & Pallas, 1984; Gamoran, 1987; Kerckhoff, 1986). In addition, recent analyses of High School and Beyond (HS&B) and College Entrance Examination Board (CEEB) data (Sebring, 1987) also support the notion that academic track placement shapes higher achievement levels, even when controlling for aptitude. While some researchers found smaller effects when ability (Jencks & Brown, 1975) and pre-high school achievement (Alexander & Cook, 1982) are controlled, there seems to be limited consensus that achievement is shaped, in part, by track placement. Much of this achievement, at least in mathematics and science, however, is explained by coursetaking patterns (Gamoran, 1987).

Post-high school plans are consistently associated with track (Alexander, Cook, & McDill, 1978; Rosenbaum, 1980). This is not surprising since the labels given tracks -- academic or college preparatory, vocational, and general -- are predictive of those plans. Students in the academic or college preparatory track are more likely to attend college than their general or vocational peers (Alexander & Eckland, 1975; Jencks & Brown, 1975; Rosenbaum, 1980), and to have higher overall educational attainment (Wolfle, 1985).

One critique of the survey research is that the track variable may not be robust. Several studies determined track position by student self-report. Because of concerns with the validity of student self-reports

regarding their course-taking, the HS&B 1982 student transcript data were compared with student self-reports. According to Goertz (1989: 18-19), these analyses "found that the quality of student reports on amount of course work ... differed by subject area" with correlation coefficients ranging from 0.87 to 0.40. While two studies reviewed by Gamoran and Berends (1987) used more refined and empirically based measures of track (Kerckhoff, 1986; Hotchkiss & Dorsten, 1987; see also Westat, 1988), the bulk of the large-scale surveys has relied on student self-reports or on the reports of others in the school.

Research on Tracking: The Ethnographies

The complex processes of tracking within a school cannot be fully understood by survey. Researchers also have used ethnographies to provide rich descriptive detail about the "subjective meanings of the events and patterns of life in schools" (Gamoran & Berends, 1987: 42). These descriptions focus on the internal processes that shape and support tracks thereby structuring access to educational opportunity.

One finding of interest in light of the previous discussion about the fuzziness of the track variable comes from the important work of Oakes (1985) in 25 middle and high schools. While track placement overlaps substantially with the distribution of ability in high school -- more able students tend to be found in academic tracks; less able in general or vocational tracks -- those descriptors do not capture the complexity and subtlety of stratification in secondary schools. Oakes (1985) and Goodlad (1984) found that "nearly all the schools grouped students by ability for several subjects, but few had curricular programs as clearly defined as in the school studied by Rosenbaum (1976)" (Gamoran & Berends, 1987: 421).

The instructional differences between tracks also have been well documented by ethnographic research. The pace and complexity of instructional tasks for some groups tends to be simplified and fragmented (Hargreaves, 1967; Metz, 1978; Oakes, 1985), resulting in what Page (1984) describes as a "skeletonized" and "univocal" curriculum for lower-track students. Moreover, the allocation of students is not random in schools: ethnographic work suggests that "the more experienced teachers and those regarded as more successful are disproportionately assigned to the higher tracks" (Gamoran & Berends, 1987: 423). And teachers in higher-track classes seem to devote more time to instruction, teach with more energy and enthusiasm, and vary their instructional approaches more than teachers in the lower tracks (Oakes, 1985). The ethnographic research, then, provides a pattern of findings that strongly suggests that there are dramatic differences in the educational resources available to students in lower-track and upper-track classrooms.

The ethnographic work also permits a sustained focus on the social context of tracking, showing how the differential status accorded track labels in turn shapes attitudes towards school. Students placed in lower-ability and lower-status tracks tend to develop anti-school attitudes; those accorded the higher status of academic tracks are more likely to

become bonded to school and schooling. They are therefore less likely to disengage from the schooling process (Finn, 1989). Teachers contribute to this dichotomizing process (Finally, 1984; Rosenbaum, 1978; Hargreaves, 1967), as do students (Rosenbaum, 1976; Oakes, 1985; Willis, 1981). The net effect of tracks is to produce "differences in students' attitudes and behavior that may be further linked to achievement and post-high school aspirations" (Gamoran & Berends, 1987: 428).

A Questioning of the Track Concept

There is also some recent research that calls into question the notion of clearly labeled tracks in American high schools. Garet and his colleagues have taken a more micro perspective on student course-taking patterns and have challenged much of the conventional thinking. For example, case studies of six high schools were conducted to capture science course-taking processes for students who entered as freshmen in 1979. Relying on student transcripts and interview data, Garet and DeLany (1984: 3) attempted to redress the lack of attention in tracking research on "the fine-grained structure of the curriculum in individual high schools". They focused on the waves of course choices made during a student's high school career with particular attention to key actors, established procedures for advising, and the information context, as well as the student's hopes and aspirations.

When each school was studied in depth, they found great variation in initial science courses taken (10th grade). While much of this difference was attributable to socioeconomic status, 11th and 12th grade course-taking patterns for those students who all took Biology in 10th grade appeared almost random. Thus, the whole concept of "track" with its connotations of a coherent set of courses as well as rigidity, impermeability, and exclusivity is brought into direct challenge. They concluded that the patterned irregularity of course-taking might well not be the result of intentionality but rather the "operation of multiple, loosely connected standard operating procedures at the schools...[the result of] constraints and organizational choices" (Garet & DeLany, 1984: 12).

Building on the data gathered about students entering high school in 1979, a second study (Garet, Agnew, & DeLany, 1987) focused on the four California high schools for indepth consideration of a full cycle of curriculum decision-making (January 1985 through January 1986). At this time, the schools were in the midst of adjusting to recently-enacted high school graduation requirements. Interviews were conducted monthly with school administrators, math and science department chairs, and counselors. As another source of data, initial course requests of all students made in the spring of 1985 were compared with final course assignments made by the fall of 1985. Finally twenty percent of the students were surveyed to gather their reasons for requesting certain courses as well as their educational aspirations.

The most dramatic conclusions drawn were that students cannot be tidily sorted into the college bound and the non-college bound (although

those who began in non-college science were less likely to move into college preparatory science than those who began in college science classes) (Garet, Agnew, & DeLany, 1987). The actual or enacted curriculum was the result of linked decisions about course offerings and student distribution across the available courses. A set of loosely related decision waves occurred: (1) the course offerings ("menu") were constructed; (2) information was disseminated to parents and students; (3) formal information was collected and consolidated; (4) negotiations took place; (5) the master schedule was built; and (6) the master schedule was tinkered with so that it became one that incorporated not only the requests of students, but also the needs of the school and district (DeLany, 1991). This process was characterized by uncertainty and constraints, made all the more fluid and unpredictable by changes in the student population, student programs of study, and the course menu. Thus, the decision process was one of not only uncertainty and constraints but also adjustments and adaptations.

This discussion helps frame the presentation of tracking and state policy reform where we saw students in the higher tracks continuing to participate more fully in the academic resources of their schools and where teachers dampen students aspirations and deflect students from challenges. Before discussing the results a brief review of research methods is presented.

Research Methods

Given that high schools have complex systems for sorting or stratifying students into various groups, we wanted to describe the stratification systems in place prior to the implementation of the new policy and then to document any changes in those systems. We were particularly interested in how the tracking systems worked and whether, given a new policy, those systems would become more rigid and less inclusive or whether they would become more permeable and permit more upward mobility for students. We also wanted to understand how those systems allocated scarce resources of merit courses to students, and what the students' perceptions were of their course options.

This paper explores those issues using a combination of both quantitative and qualitative methods. The quantitative assessment of tracks involves analysis of course-taking patterns from five high schools available to us during the four years of the research. These five were chosen because of their representativeness across the diversity of high school experiences. A brief summary of the five schools is presented below with pseudonyms that capture the essence of the character of each school.

Maryland High School Field Sites

1. Fast Track High School. The student population is 1,100 and predominantly white. Fast Track is located in an upwardly mobile, growing suburb of a major metropolitan area. The school has a strong academic focus and the district has been proactive in its response to the new graduation requirements.

2. United Nations High School. The student population of 2,100 is racially very diverse with one-third African-American, one-third white, one-sixth Hispanic, and one-sixth Asian. The school is in a large urban area and has a wide range of programs to accommodate its diverse population, including a math/science magnet program and a large ESOL program.

3. Urban High School. Urban is located in a large city and its 1,500 student population draws almost equally from an African-American and white population. The school has suffered significant cutbacks in recent years and suffers from many of the common ills of inner-city schools. The school struggles to offer a comprehensive academic program.

4. Middle Class High School. Middle Class is in a suburban blue collar community and draws its 1,150 students predominantly from white families. The school enrollment has declined by 18 percent over the past several years, but still manages to offer a wide range of course selections. The school has an elaborate "phasing" (i.e. tracking) system that offers formal constraints on students' options.

5. Rural High School. Rural sits on the shores of the Cheseapeake Bay in a picturesque little community that is fiercely proud of its small school (222 students). Three quarters of the students are white and about a quarter are African-American. The curriculum at Rural is guided by the fact that nearly every course is a "singleton", creating difficult scheduling problems in trying to assemble a comprehensive program.

Stratified random samples of student transcript records were taken from each school. With the exception of the smallest high school where all students were included, the samples included at least 100 students from each major ethnic/racial group in each school. Complete transcript data were collected from each student, including the subjects taken, the grade for each course, the number of credits earned, and the level of difficulty of the course (or track). These data were collected for all four years of each student's experience in the school. Comparisons were made across two cohorts of students at each school: the class of 1986 which graduated before the new policy was in effect and the class of 1989 which was the first one having to meet all the stipulations of the policy. The distribution of transcripts included in the analysis by school, track and year is presented in Appendix A.

To complement the quantitative data, we also interviewed samples of students and teachers in each of the five high schools. These interviews were conducted at all five schools in 1986, 1988 and 1990. The number of interviews conducted in each school with students and teachers is summarized in Appendix B. The teacher interviews solicited their knowledge of and views on the new graduation requirements, as well as their impressions of the tracking systems in their school. Students were asked to comment on

their course selections and who influenced those selections, as well as their knowledge of graduation requirements. Complete documentation of the interview protocols as well as other important design features of the larger study can be found in Wilson, Rossman, and Adduci (1991).

We first describe the tracks and their permeability, demonstrating that tracks are much more elusive than both prior research and the conventional wisdom (including our own) would suggest. Next we provide detailed descriptions of teachers' views on how the new policy has affected the tracking systems for students. Of particular interest is how teachers discuss their promotion of students into the scarce resource of Certificate of Merit courses. We conclude the data presentation with students' views of their educational opportunities and constraints and what mechanisms and role groups they see as gatekeepers to more advanced courses.

Student Course-Taking Profiles and the Influence of Track

The first perspective on the effects of policy reform on tracks involves an analysis of 1400 student transcript records across the five high schools. Comparisons of course-taking patterns are made with students before (class of 1986) and after (class of 1989) the increased requirements took effect. These analyses compared the experiences of students in different tracks.

In determining a student's track, most previous quantitative research has relied either on school assignment to a particular track, student self-report of track placement, or a review of the level of difficulty of one or more subjects during the senior year (e.g., students enrolled in calculus versus applied math). With access to complete students records we were able to build an empirically grounded conception of student movement across courses throughout their four year career. Rather than looking at individual subject areas and trends from one year to the next, we developed a singular, aggregate indicator.[3] This was accomplished by looking at the combination of courses students took across each of three categories: college preparatory, vocational, and general. An algorithm was developed that classified students into one of five categories:

pure:	college preparatory	11%
mixed:	college preparatory/general	30%
mixed:	college preparatory/general/vocational	20%
mixed:	general/vocational	9%
pure:	general	31%

It is interesting to note that there were no pure vocational students and also no mixed type college prep/vocational.

Students were assigned to one of these five categories and analyses were conducted to see if there were: (a) important differences in course-taking patterns among students in these five tracks, and (b) whether the state policy of increasing requirements was associated with track

differences. To answer those questions three measures of student course-taking were operationalized: the number of academic credits, the number of math credits, and the proportion of credits failed. These three were chosen because they reflect both broad and specific intentions of the state policy and a concern about its impact. The broad policy intention was to increase standards and the number of academic credits operationalizes that. A specific requirement in the policy was the addition of a third math credit, so the number of math credits was used. Finally, by increasing standards a number of critics have argued that students will have more trouble meeting course demands. The proportion of credits failed operationalizes this final indicator.

Academic subjects

Table 1 summarizes the number of credits earned across the four major academic subject areas (math, science, social studies, and English). A breakdown is presented by school since other analyses revealed important school differences (see chapter 3 in Wilson, Rossman, & Adduci, 1991). The table also provides a comparison of students' experiences before (1986) and after (1989) the policy took effect and across the different track assignments.[4]

Table 1: Mean Number of Academic Credits Earned by School, by Year, and by Track*

	CP & CP/GEN	CP/GEN/ VOC	GEN/VOC & GEN
Fast Track			
86	15.0	14.4	14.2
89	15.9	15.3	14.0
United Nations			
86	15.6	13.4	13.0
89	16.3	13.6	12.8
Urban			
86	15.3	12.2	11.9
89	15.9	13.8	14.0
Middle Class			
86	14.8	13.1	12.2
89	14.8	11.8	12.5
Rural			
86	16.4	13.8	12.3
89	15.8	----	13.0

*The number of cases for each cell in this and the following two tables is presented in Appendix A.

The data offer a very strong message about which students earn more academic subject credits; those with a college prep focus (college prep or college prep/general) averaged nearly two more credits in academic courses than did the students enrolled in general and general/vocational courses. This pattern was consistent across all five schools. Changes in these significant track differences associated with the policy were mixed. In the two more academically oriented schools, Fast Track and United Nations, the gap actually widened. That is, students in the college-prep-focused tracks distanced themselves even further from the general students; the inequities in participation in academic subjects grew. On the other hand, the gap was decreased at both Urban and Rural. At those two schools students in the general and vocational/general track are now earning more academic credits and they are gaining ground with their peers in the college prep focused track.

Mathematics

Table 2 presents breakdowns across the five tracks for math credits. The findings are very consistent across both years and the five schools. Before the new requirements went into effect students in the college prep track took significantly more math credits (anywhere between 3.4 and 4.6) than did those in with a general focus. The biggest gap was at Urban and Rural where the difference was two full credits. Dramatic changes are seen with the new requirements. By 1989 the gap between the college prep focused group and those with a general focus almost disappeared. That is, the students across all tracks were taking a more balanced total of math credits. Thus, the policy seems to be having a significant positive impact on decreasing inequities in exposure to math credits.

Table 2: Mean Number of Math Credits Earned by School, by Year, and by Track

	CP & CP/GEN	CP/GEN/ VOC	GEN/VOC & GEN
Fast Track			
86	3.5	3.0	2.9
89	3.6	3.5	3.3
United Nations			
86	3.7	3.1	2.7
89	3.8	3.5	3.3
Urban			
86	3.6	1.6	1.5
89	4.1	3.3	3.4
Middle Class			
86	3.4	3.2	2.5
89	3.5	3.1	3.3
Rural			
86	4.6	3.2	2.6
89	4.1	----	3.8

Are Students Struggling More?

The data in Table 3 provide evidence of the difference across tracks and schools of student failures in coursework. Consistent results across all the schools show that students in the college prep focused track fail the lowest proportion of courses while those in the general track fail the most. The difference between the college prep and the general track was not very large before the requirements took effect (except at Middle Class and Rural), but in four of the five schools after the new requirements were in place a significantly higher gap emerged between the two tracks in all the schools but Rural. The most striking example was Fast Track where students with a general focus are now six times more likely to fail courses than students in the college prep track. In this area the policy seems to be having a negative effect by enhancing the prospect of failure for students in the lower track.

Table 3: Percent of Courses Failed *
by School, by Year, and by Track

	CP & CP/GEN	CP/GEN/ VOC	GEN/VOC & GEN
Fast Track			
86	2.8	1.8	3.0
89	1.4	1.4	8.5
United Nations			
86	2.8	6.0	3.8
89	3.3	5.5	12.3
Urban			
86	6.0	6.2	7.3
89	2.6	2.6	6.3
Middle Class			
86	2.9	1.5	8.0
89	1.8	4.0	5.6
Rural			
86	3.2	5.0	6.3
89	3.8	----	7.1

* This figure is the average of the ratio of failed courses to the total number of courses taken for students in each of the categories.

The three tables discussed above offer portraits of students' course-taking patterns by track and detail changes associated with the new policy. The results are clearly mixed. The generalized concern that students in the lower track may struggle more is clearly demonstrated by the data. On the other hand, the very targeted goal of increasing students' exposure to math appears to be affecting the lower track positively. Finally, the general goal of raising standards did not seem to be associated tracks in a consistent way.

Opportunities and Constraints: The Students' Voices

The students' perspectives are crucial in understanding how school structures and norms coalesce into a set of circumstances that track students. While the transcript records offer a detailed accounting of what

course-taking patterns look like, a more complete picture of why they select these courses is offered by students' own views. This section details how students at the five high schools identified both formal and informal mechanisms that shaped their course-taking and, subsequently, their high school careers. It is through the comments of students that we can further focus on student opportunities and the degree to which track labels constrain them. These views did not change significantly as a result of tightened graduation requirements. That is, the mechanisms that constrained them operated independently of the policy.

Interviews were conducted with approximately 400 students in the five high schools over the course of the four year investigation (see Appendix B for a frequency count by school). Students were asked to comment on factors that encouraged or inhibited them from taking more advanced classes (i.e. move across tracks). The majority of the interviewed students stated that if they wanted to take advanced courses they would face few barriers. Two categories of response captured this perspective. The more optimistic response was to embrace that freedom and take advantage of it: "Any class I've wanted to take, any option I've wanted has been available to me. No one has ever held me back from doing whatever I wanted." Or as another student commented: "It's up to me. If I want to, I can." The other response was to acknowledge the lack of barriers but also to admit that little individual effort was taken to capitalize on these opportunities. As one student stated, "I'm free to [enroll in advanced level courses] but I haven't been motivated", and another said, "I'm free to but I chose to drop out - it was too much pressure."

While in the minority, there was a fairly strongly held position by students that barriers do exist in course selection, often preventing them from taking full advantage of all the opportunities that were theoretically open. Students talked about both formal and informal mechanisms that restricted opportunities.

Formal Mechanisms

There were two categories of formal barriers suggested by students. The first barrier was adult gatekeepers - teachers and counselors who controlled access to certain classes. And, second, tests were cited as potential roadblocks for enrollment in courses.

The most frequently mentioned barrier to enrollment in more challenging courses was either teachers or counselors. The comments of students reflected a view of staff as "gatekeepers" who control access to courses:

"It's mostly the teachers who hold students back from higher classes. If they think you won't do well, they won't offer it to you; "Teachers don't like you to take it [advanced courses] if you aren't able to do the work. Teachers decide who should be in or out"; and "It's your counselor who decides ... It is a major struggle to get into [advanced] classes if you are not in the program."

It was also common for students to talk about test results as another barrier. Interestingly, tests were reported as a control mechanism at both ends of the continuum of course difficulty. That is, if you don't do well, you can't gain access to advanced courses, and if you pass minimum competency tests, you will be denied access to some introductory courses. Regarding barriers to advanced classes, students said: "Last year I wanted to take English 3 honors. I didn't pass the Reading Test so I couldn't stay there."

In contrast was the denial of access because a student had passed a test: "I'm taking Geometry for the second year [and was in danger of failing it again]. I wanted applied math but I couldn't take it because I had passed the Maryland Functional Math Test and applied math is only for people who didn't pass;" and "You can't be involved in AP classes unless you take the tests. Kids are hand picked for the tests."

These two mechanisms -- teachers and tests -- created procedures that (at least for some students) dampened aspirations. Perhaps even more powerful, than these formal constraints, were the informal mechanisms -- the attitudes of others encoded in norms -- that constrained and shaped hopes and dreams in subtle yet pervasive ways. We discuss these next.

Informal Mechanisms: the Attitude of Others

When interviewing students about their high school experiences we also questioned how others would react if they were to enroll in more challenging courses. Specifically, we sought students' views from four different "significant others": teachers, counselors, peers, and parents. While there were a number of positive responses, students also mentioned many "significant other" reactions that discouraged them from seeking more challenging course opportunities. Of the four, other students were easily the most indifferent or discouraging. Analysis of their views about other students, teachers, parents, and counselors, highlighted four categories of informal barriers. The first two addressed views of their ability and concerns about the work load if students were to attempt more challenging courses. The latter two barriers focused on peers and included a fear of losing social cohesiveness and social acceptability. Each of these is discussed below.

Ability. Students voiced concerns about the confidence adults would have in them if they were to take advanced courses. Some judgment of capability was often the focus; that is, students wondered how parents, teachers, and counselors would evaluate them. Counselors and teachers, in particular, often were given the role of assessors of ability. Students suggested that these "significant others" would determine whether or not they "could handle" taking advanced courses. As one student stated about his/her teacher, "She knows me as a student so [she] could estimate how well I could do". Other student comments about perceptions of their ability are captured in the following statements:

They discourage you if they don't think you're capable.

[The counselor would say] I don't think you would be good at it. We'll give you help, but [I'm] not hopeful.

[The teacher would say] you know you can't do it, why bother. If they thought I was smart enough to pass it, they'd encourage me to. But in my case, they wouldn't encourage me.

Peers were also identified as assessors of ability, as people who "If they thought [advanced courses] were too hard for me would tell me". This was regularly expressed by students in a common language: "[Friends would] probably say it was too hard for me", "They would tell me it's hard and try to talk me out of it", and "[they would] tell me not to take it; they'd think it would be too hard for me".

Grades, as a concrete reflection of ability, were often mentioned by students as barriers to their taking on increasingly challenging opportunities:

[My parents] might have concerns if my GPA goes down.

My counselor wouldn't allow me to take advanced courses because of previous grades.

[My counselor] would probably look and see how I did in those classes in the past and tell me if I'm capable of making it.

First thing they [teachers] would do is look at my grades and tell me it's nice but your grades aren't as good as they should be to take this course.

The tone of these comments is clear. If there is any doubt about a student's ability, then the safest course of action is to not be challenged. The most obvious conclusion students draw from that message is don't go beyond the minimum; just do enough to get by.

Amount of work. Students often anticipated hearing concerns about a variety of work-related factors from parents, teachers, counselors, and sometimes friends if they were to take on more challenging courses. These included concerns over increased pressure, amount of homework, and performance concerns:

They'd [friends] have thought I was crazy because it takes a lot to study for advanced and business courses.

They [parents] would say take the challenge as long as I don't have to struggle too much and get in over my head.

He [counselor] is afraid the work overload would be too much. He wants to make sure we do well.

[My teacher would ask] why would I want to take more classes and increase the pressure on myself.

Social cohesiveness. A peer-specific element voiced by those we interviewed suggested that students often become friends with peers who enroll in similar classes, and then they take classes to maintain contact with those friends. Taking the same classes is how many students maintain their friendships and their comfort level in a school. The importance placed upon students being in the same classes with their friends is demonstrated by the following comments:

They [friends] would be upset if you were leaving their classes. They would be happy if you were joining them.

My friends would think I'm crazy for taking hard classes. Many feel we should be in easy classes together; we shouldn't be separated.

They [friends] would think I was trying to get away from them.

Social acceptability. How students are viewed by their peers is very important to students as they are at an age when development of their social-self is at its peak. Therefore, when the term "nerd" was used repeatedly by students in projecting peer-reactions to them taking more challenging courses, it became clear that this is a very strong element in determining whether students would reach for higher levels of attainment. This concern about how students would be labeled by their peers was prominent throughout the interviews:

Some people tell that to others, like magnet students. They are nerds, don't have any friends, their friends are their books.

Some friends would think I was a nerd-bucket.

They would call me a nerd because I'm doing more than the minimum.

Building a sense of identity and belonging is an important part of the socialization process in high school. Much of that identity comes from friendships. Until a new culture can pervade high schools where learning and achievement centrally define how and why students belong, then factors like social cohesiveness and acceptability will continue to heavily influence students' course choices.

Taken together, the formal and informal mechanisms formed powerful constraints on the hopes and aspirations of at least some students, suggesting that they might best stay right where they were rather than aspire to too much.

The Tracking System and the New Requirements: Teachers' Views

The third and final perspective on tracks and how they have been affected by the state policy initiative is offered by the teachers. During the study three separate visits were made to the schools to talk with teachers about what was happening in the five schools in response to the new requirements. More than 340 teacher interviews were conducted over a four year period (see Appendix B for a frequency count by school).

When addressing the issue of tracking and the new requirements, most teachers talked about the Certificate of Merit, the state-awarded certificate given to students who had enrolled in a more academically rigorous curriculum than those earning a regular diploma (12 of 20 credits in "advanced" courses, 3 science credits instead of 2, and one foreign language credit beyond the first year) and who had been more successful (minimum GPA = 2.6). Teachers' comments are organized around three main themes: (1) placing responsibility for tracking on parents or students, (2) the role of the Certificate of Merit in defining a new track, and (3) uneven dissemination of the Certificate of Merit as a means of maintaining track inequities.

Responsibility of Others for Track

Teachers were almost evenly split in their opinions of whether tracks had or had not been affected by the new requirements. For those who voiced concerns about tracks becoming more rigid, there was rarely any self-blame offered (contrary to the testimony of students). Interestingly, the teachers were quick to put the blame elsewhere. Students and parents were the ones whom teachers held responsible for the increased track pressures:

> There is definitely more tracking; in the sense that kids track themselves. There is more of an opportunity for self-tracking which could be positive or negative.
>
> It's gotten worse but not because Certificate of Merit or graduation requirements. It's all voluntary; kids choose their own track.
>
> We don't track in this school, but it is happening; it's parent or self-imposed.
>
> It is parent-sponsored to give high-achievers another recognition.
>
> Parents demand student recognition. Kids didn't care [about the Certificate of Merit] until their parents found out about it. Parents love the little stars (denoting Certificate of Merit recipients) on the graduation program because it differentiates their children from the pack. You better not be the secretary who leaves the stars off!

I hear about parents who are pushing for their kids to be in higher track courses.

Perhaps much of the blame for this may be a by-product of the new Certificate of Merit and the process by which this certificate led to a new track in several schools. As parents and students pushed to earn this certificate, a new student classification emerged. Teachers talked extensively about the Certificate of Merit as replacing the college-bound track.

Certificate of Merit as the College-bound Track

Again and again, teachers discussed the Certificate of Merit as if students who took those courses were enrolled in a track in and of itself. It was referred to as another delineation in the perpetual hierarchy of students. Several teachers faced the issue head on by stating that the Certificate of Merit: "Is just a new label on the same old thing. We've always tracked kids who are college bound", and "The Certificate of Merit is a new name for the old academic track. It's exactly the same thing. What goes around comes around."

This was most apparent at Fast Track High School, where teachers and other school officials viewed the Certificate of Merit as "giving legitimacy to the academic track", "enhancing the academic track of students when applying to college or a job", and "forcing kids to see differences between academic prep for college vs. non-academic prep for industry". Students who are pursuing the Certificate of Merit at Fast Track, according to one teacher, can be identified early on in the high school years: "It's not unusual by tenth grade to know which kids are going to get the Certificate of Merit".

For many teachers the positive effects of recognition and reward attached to the Certificate of Merit were far outweighed by its negative impact of isolating some students, as evidenced by these comments:

> Instead of democratizing education, we're elitizing it. Kids are not being exposed to the same things, and there are very few places for them to all come together.

> The Certificate of Merit is an attempt to give credit to students who have excelled. I'm not sure I agree with that. When you start doing those kinds of things you tend to track students more.

> There is a tendency to pay attention more to the student who does well rather than the ones that don't.

There were also concerns from an entirely different perspective. Unlike Fast Track where teachers were worried about the potential of two tracks developing, Certificate of Merit and non-Certificate, Urban High School teachers were concerned because, given the limitations of an urban school facing enrollment and staffing declines, they simply

could not remain competitive without offering a viable Certificate of Merit program. According to one counselor, "Last year we had three students [who received a Certificate of Merit] and this year I think only one. We can't afford to give students some advanced classes if we don't have enough students to fill them." Their program simply could not accommodate an additional track.

Dissemination of Certificate of Merit Information

If the Certificate of Merit has the potential for redefining tracks in schools, then it is important to know more about the extent of teachers' knowledge and how they communicate it to students. In many cases teachers are the primary disseminators of information within a school, serving as the link between policy, administration, and students. If teachers don't know about the Certificate of Merit, they can't tell students about it or encourage them to obtain it.

In many cases students reported hearing about the Certificate of Merit first, and then asking their teachers about it. As one teacher who was not new to his/her school stated, "I had to ask what the Certificate of Merit was when a student asked me. Nothing was said about it," and another said, "Some kids asked me in homeroom and I told them they would have to see their counselors".

Although many teachers believed they had a clear understanding of the Certificate of Merit, their responses indicated otherwise. For instance, one teacher said it "allows those going to college to waive certain courses", apparently confusing it with advanced placement courses. Another stated that, "it is for students who can't meet the academic requirements; they are given a certificate instead of a diploma", confusing it with a certificate of attendance awarded to special education students.

The teachers who had the most knowledge and the most accurate information about the Certificate of Merit were teachers who taught advanced courses and who worked with college-bound students. This unevenness in knowledge helped perpetuate inequities in access to academic opportunities for students.

This may help explain why certain students were much more knowledgeable about the Certificate of Merit than others. College-bound students were more likely to find out about the Certificate of Merit through teacher encouragement than others. About one half of the teachers we interviewed reported encouraging the Certificate of Merit; those teachers who did said they tended to encourage students "who could handle it". However, in most cases those students included mostly college bound or honors students, according to teachers. As one teacher stated, "if I taught ninth graders, I would go after the ones that seem to be in the college-bound track." Other teachers' encouragement of certain students was also apparent:

I encourage the ones that can do the work easily and who don't feel like it's an extra burden.

I don't encourage lower-level students.

From the above comments, it is apparent that some teachers believe either tracks are not a significant feature of the schools or that they are not responsible for the perpetuation of tracking systems. On the other hand, their reports of their own actions (for example, disseminating information about the Certificate of Merit), corroborated by students' reports of teachers actions, suggest persistent patterns where some students are denied access.

Conclusions

Policies implemented in the early 1980s are beginning to show effects in students' school experiences. The first wave of reform that focused on tightening standards for high school graduation is coming to fruition as students whose entire high school careers were under those stricter requirements are now graduating. Now it becomes possible to take a step back and look at the larger patterns that are emerging from those early policies.

The research reported here is part of a larger assessment of five high schools' responses to graduation policy reform. We have focused on changes in course-taking patterns, as mediated by tracks, and perceptions about tracks and tracking systems. The conclusions suggested by the data are quite mixed. Certainly students are taking more math credits overall. With our growing concern for students' access to mathematics and science (see Oakes, 1990, for a discussion), this is of benefit. But students in the higher tracks persistently participate more fully in the academic resources of schools -- that is, they take more academic courses, ones that will permit them to continue their education and pursue careers in the professions. More dramatic are the failure rates for students in the lower tracks which, as critics predicted, have grown as the stricter requirements have taken hold. Our concerns grow for students relegated to the lower tracks, ones without much hope or aspirations.

A second point is worth underscoring here. Although this did not change with the new requirements, students' perceptions about gatekeepers and barriers to advanced course are stark. While only a minority opinion, we remain concerned that the culture in schools is still such that teachers dampen aspirations, deflect students from challenges, and do not uphold standards of high expectations for all. Consistent with this are the patterns of insufficient dissemination of information to students, patterns that are exclusionary in effect.

In some schools teachers have become as tracked as students. Thus, they serve an ever-narrowing band of student ability and talent. This trend is ominous for schools of the next decade that will have to serve an

increasingly diverse student population. To meet these challenges, we need schools and teachers who are supple and variegated in this responsiveness to all students. Policies implemented in the early 1980s may be having perverse effects on that suppleness; it is time to revisit those policies.

Endnotes

1. In addition to these requirements, the reform also mandated a practical arts credit, a fine arts credit, and four credits earned during a students' senior year.

2. For the following discussion on survey and ethnographic studies we relied substantially on the review article by Gamoron and Berends (1987).

3. Since each course taken was categorized as college preparatory (certificate of merit eligible or above), general, or vocational, we could compute three simple ratios: (1) college preparatory to the total number of courses; (2) general to the total; (3) and vocational to the total. A simultaneous review of those three ratios revealed wide variation across all three with some interesting combinations. It was clear that in addition to the "pure types" (college prep, general, vocational), there was also a large number of "mixed types", that is, students who took a healthy dose of courses in more than one category and thus do not fall into a tidy, generic track category.
After careful review, we developed a decision rule where a "pure type" was defined as a student who took two-and-a-half times as many credits in one category as in either of the other categories. A mixed type of two categories exists when there is less than a two-and-a-half times difference between the two highest categories and more than two-and-a-half times between the lowest. Finally, a mixed type with all three categories is the logical combination where no category was separated from another category by more than two-and-a-half times.

4. For any given school there are some categories of track assignment for which there is missing data. Also, for ease of comparision it made more sense to combine the two categories with a more academic focus (pure college prep and mixed college prep/general) and the two categories with a more general focus (pure general and mixed vocational/general).

Appendix A: Frequency Distribution of Student Transcripts by Track

	1986 (N=663)			1989 (N=674)		
	CP & CP/GEN	CP/ VOC/GEN	VOC/GEN & GEN	CP & CP/GEN	CP/ VOC/GEN	VOC/GEN & GEN
Fast Track	24	8	69	77	9	16
United Nations	71	27	103	197	34	59
Urban	9	21	163	17	14	112
Middle Class	37	12	59	67	6	34
Rural	26	9	25	16	---	16

Appendix B: Frequency Distribution of Student and Teacher Interviews by School and Year

	Teacher (N=343)			Student (N=403)		
	1986	1988	1990	1986	1988	1990
Fast Track	11	15	38	12	17	36
United Nations	17	16	38	14	16	95
Urban	14	14	31	9	15	58
Middle Class	27	17	52	12	19	30
Rural	26	12	15	12	18	40

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